

34 - Title: Validation of the Giant Cell Arteritis Probability Score at a Tertiary Hospital

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Background: Giant cell arteritis (GCA) is a large vessel vasculitis that preferentially affects the branches of the common carotid artery, particularly the superficial temporal artery. Symptoms may manifest as jaw claudication, headache, scalp tenderness, and visual disturbances with possible permanent vision. While the initial diagnosis is based on clinical suspicion, temporal artery biopsy (TAB) remains the gold standard diagnostic test. The necessity of TAB has been called into question on the basis that results seldom change management and clinical findings are sufficient for a diagnosis. Despite TAB being a minor procedure and having a relatively low complication rate, it is still incumbent upon vascular surgeons to ensure proper patient selection. Application of a practical risk stratification tool could reduce the likelihood of futile procedures and facilitate a multidisciplinary approach between vascular surgery and other specialists. The purpose of this study was to validate the Giant Cell Arteritis Probability Score (GCAPS) in a retrospective cohort of patients with suspected GCA and to assess if this score is a reliable predictor to rule out GCA by comparison to our TAB samples.

Methods/Research Design A retrospective cohort study of patients undergoing temporal artery biopsy at Stony Brook University Hospital (SBUH) between August 2002 to May 2024. Patient demographics, symptoms, signs, laboratory markers and (possible) alternative diagnosis at presentation were collected from the patients' records at the time of the initial consult. A modified version of the GCAPS was used due to poor documentation of the variable extra-cranial artery abnormality i.e. m-GCAPS (GCAPS without extra-cranial artery abnormality). Continuous variables were expressed as mean with standard deviation (SD), whereas categorical variables were expressed as numbers and percentages. Welch's two-sample t-test, the Mann-Whitney U test, and Chi-square test (or Fisher's exact tests when appropriate) were used for statistical analysis. The discriminatory performance of the mGCAPS was determined using the area under the curve (AUC) of the receiver operating characteristic curve (ROC). A p value <0.05 was considered statistically significant.

Results Of 167 patients undergoing TAB, 109 patients had complete records. Of these patients, 20 had positive biopsies. The m-GCAPS had an area under the curve of 0.93, a sensitivity of 90% and specificity of 82% at the optimal cut-off value >14.5. GCA prevalence was 0% in the low (score<9), 0% in the intermediate (9-12) and 32% in the high-risk group (>12).

Conclusion Performance of the m-GCAPS for risk stratification has shown to be a promising tool for providers to use in an inpatient setting. This provides aid in identifying equivocal cases of GCA and allowing surgeons to make informed decisions about who would most benefit from TAB.